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Dear Readers

In July this year, Australia will be visited by many prominent international scientists attending a major international conference on General Relativity, Gravitation and Gravitational Waves. This will be the first International Conference on General Relativity and Gravitation to be held in the Australian region. Among the international scientists attending will be Professor Kip Thorne, Feynman Professor of Theoretical Physics at Caltech, USA and Sir Roger Penrose, Emeritus Rouse Ball Professor of Mathematics at the University of Oxford, UK. Both of these very distinguished scientists will be giving Public Lectures. For ticketing and further details see the web site:

http://www.grg18.com/[1]

Professor Thorne's work is well known to scientists in the areas of Einstein's general theory of relativity and astrophysics, including relativistic stars, black holes and gravitational waves. Professor Thorne's distinctions include the American Institute of Physics Science Writing Award, the Phi Beta Kappa Science Writing Award, and the (Russian) Priroda Readers' Choice Award for his popular science book *Black Holes and Time Warps: Einstein's Outrageous Legacy*. Professor Thorne was also California Scientist of the Year in 2004. Professor Thorne's talk will be held at 7pm on Tuesday 10 July at Sydney Convention and Exhibition Centre and is entitled *The Warped Side of the Universe: From the Big Bang to Black Holes and Gravitational Waves*.

Sir Roger Penrose (with Stephen Hawking) carried out some of the pioneering work (with Stephen Hawking) on the gravitational collapse of stars leading to black holes and on the Big Bang. He is also known for his discovery of aperiodic tilings of the plane (Penrose tiles) that were subsequently shown to underlie the atomic structure of quasi-crystals. Sir Roger Penrose is also a reknowned scientific communicator. He has written a number of books exploring the link between consciousness and fundamental physics, including *The Emperor's New Mind* (1989), which won the 1990 Science Book Prize, *Shadows of the Mind* (1994) and *The Road to Reality* (2004). Professor Penrose's talk will be held at 7pm on Friday 13 July at Sydney Convention and Exhibition Centre and is entitled *What Happened Before the Big Bang? A Novel Answer to a Profound Cosmological Puzzle*. Before his talk (funded by the UNSW Faculty of Science, the Dirac Medal Fund and the Gordon Godfrey Fund for Theoretical Physics) Sir Roger will be presented with the University of New South Wales School of Physics Dirac Medal, which commemorates the 1975 visit of Nobel Laureate Paul Dirac to UNSW.

John Steele has written two articles for this issue of *Parabola* concerned with aspects of Einstein's theories of General Relativity and Special Relativity. It is always a pleasure to read introductory articles in these areas, either for the first time or the nth time. Geometry is the key to Einstein's General Theory – the gravitational force can be viewed as a natural manifestation of the curvature of a four-dimensional space-time. Geometry features too in the articles by Norman Wildberger and Michael Deakin. These articles re-investigate some fundamental results in geometry; from a new perspective in Norman's case and from an historical perspective in Michael's case.

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[1] Editorial note, February 2014, this is now a dead link.

Another item that I would like to draw to your attention is the recent National Strategic Review of Mathematical Sciences Research in Australia which was reported to the Australian Academy of Science. Details of the review can be found at the web site:

http://www.review.ms.unimelb.edu.au/.

This review expressed serious concerns about the current and future supply of trained mathematicians and statisticians in Australia. An OECD (Organization for Economic Cooperation and Development) report was quoted which showed that in Australia, fewer than one out of every two hundred graduates have qualifications in mathematics or statistics.

The article by Stephen Wright (Director of Professional Education, Institute of Actuaries Australia) in this issue discusses strategies that secondary school teachers might adopt to help bring students back to mathematics. If you are a student reading this editorial then there is a bright silver lining to the clouds hovering over the mathematical sciences in Australia. There has never been a better time to pursue tertiary training and a future career in the mathematical sciences.

B.I. Henry
Editor